

MACHINE DIVISION

This chapter will deal with those aspects of the Machine Division (MD) not related to the Intellofax System.

*Actual 1947*  
Close to 50 percent of MD's activities from 1947-67 were devoted to the Intellofax System and as such are discussed in detail in chapter \_\_\_\_\_ (Intellofax).

*Each Department Mission*  
The first responsibility of the Office of the Chief of the Reference Branch, Office of Reports and Estimates (ORE),

*Transfer*  
~~was~~ according to the Statement of Mission in March 1947, was to: <sup>1/</sup>

"establish a machine operations center for appropriately and efficiently recording and filing intelligence information and intelligence in a readily accessible state for later listings, tabulations and statistical reporting by machine research techniques for CIG

[Central Intelligence Group] and the member agencies. More specifically, the Central Index (MD's first name) was to: <sup>2/</sup>

1. Index, by business machine ~~method~~ procedures the subject matter of all available reports, and other documents, of a foreign intelligence nature.
2. Locate and identify upon request all available intelligence material pertaining to any specific foreign subject or area.
3. Analyze the Index at regular intervals to determine superabundance or dearth of available documentary foreign intelligence on any subject of interest to the national security.
4. Apprise the pertinent offices of the results of such analyses for appropriate action.
5. Prepare and distribute accession lists of all newly acquired, important foreign intelligence documents.
6. Provide, upon request, complete bibliographies of available intelligence material on any specific foreign subject or area.
7. Maintain and analyze the IBM card files of Foreign Funds Control and similar special IBM files for listings and statistical intelligence information, within the capabilities and physical limitations of the Reference Branch.
8. Acquire, code, and process the special US Bombing Survey Reports and similar documentary files within the limits set down by responsible intelligence and research offices, and limited only by the capabilities and physical limitations of the Reference Br.

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<sup>1/</sup> [redacted] AD/ORE to Advisor for Management, ICAPS, 25 Mar 47,

sub: Proposed Statement of Mission, Reference Branch, ORE. S.

File: OGD Table of Organization History Job: 58-9876

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In requesting a grade raise for the Chief, <sup>U</sup>entral Index, the Assistant Director (AD)/CD added the following responsibilities <sup>1/</sup> in 1948:

1. Act as consultant on matters involving all types of office machine operations and technical procedures for CIA and member agencies.
2. Maintain continuous liaison with specialists both in technical industries and companies outside the government and with specialists in the intelligence offices associated with CIA.
3. Maintain continuous study, investigations, and research in the field of management engineering to assure the use of the most efficient and up-to-date methods and procure in carrying out the mission of the Reference Center

*responsibilities were carried out in the*  
 These three ~~duties~~ set the tone for the constant ~~research~~ on the part of MD ~~chiefs~~ for new and improved methods in machine techniques, not only for OCD/OCR but also for other Agency components.

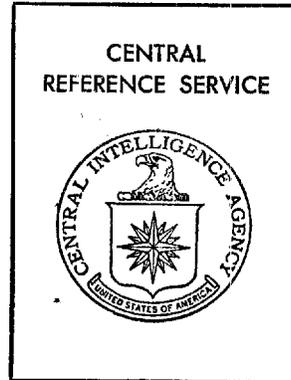
MD's mission was realistically spelled out in 1957/58 <sup>2/</sup>  
 " to perform the following tasks: (1) maintain and service various files, capable of being mechanically handled, which index or provide organized data related to intelligence information held by certain OCR components, and upon request, within its manpower capabilities, perform similar services for other Agency components. (2) Investigate and develop, when necessary, new equipment which will aid in the information processing problems of the DD/I. Upon request

<sup>1/</sup>Central Index Increase in Grades. (undated, probably early 1948)  
 S. File: Tables of Organization 1947-51. Job: 58-98/6

<sup>2/</sup>

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8. Acquire, code and process the special US Bombing Survey Reports and similar special documentary files within the limits set down by responsible intelligence and research offices, and limited only by the capabilities and physical limitations of the Reference Branch.

*names i chief*

Historically the Machine Division had three names from 1947-67. It was first organized as the Central Index of the Reference Branch (soon renamed *Center* (frequently also called the Reference *Center*) of ~~the~~ ORE from early 1947 until the merger of the Reference Center with the Office of Collection and Dissemination (OCD) in May 1948. Under the new OCD, it was designated the Machine Methods Division (MMD) which name it retained until 1950 when it became the Machine Division. It remained MD until September 1966 when the Office of Central Reference (OCR, successor to OCD) reorganized and *all of OCR's* machine elements were *combined in* designated the Machine Support Division. It will henceforth be referred to as MD in this chapter.

MD had four chiefs during its 20 years of existence.

25X1A9a [REDACTED] a Navy Commander who had headed a large IBM indexing effort during World War II, reported for duty in March 1947 to organize the machine operations. He transferred to the Management Staff in September 1950 as chief of a machine planning and development

25X1A9a group for the *entire* Agency. [REDACTED] who also reported for duty in

25X1A9a March 1947, had been [REDACTED] side deputy and had been responsible for the development of much of the early equipment for the central reference facilities. He served as chief until September 1954 when he joined

25X1A9a the Eastman Kodak Company. He was succeeded by [REDACTED], who had

25X1A9a been Assistant Chief of the Special Register (SR) and responsible for machine developments in SR. With his sudden death in January 1958,

25X1A9a the division reins were taken over by [REDACTED], who had been

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Space orientation in 1947 dictated that separate machine sections for the Industrial Register (IR) and the Biographic Register (BR) be established. It was ~~Dr. Kenneth Adcock~~ <sup>early management</sup> the hope of ~~Kenneth Adcock (Acting Chief, Reference Center) in 1947~~ that when all the registers were fully activated, the machine operation would be again be examined to determine the feasibility of organizationally separating machine personnel from the Registers. As an alternative to transferring all machine operations to a single jurisdiction, James M. Andrews, Assistant Director (AD) of OCD, in 1949 appointed the Chief, MD to exercise general surveillance over all OCD machine <sup>activities</sup> operations. There is no indication in the records that the absorption of IR's machine section by MD was reconsidered when the two units became collocated in the Riverside Stadium in April 1952. <sup>main floor in Building 10</sup> In July 1958 <sup>that</sup> the machine operations of IR were merged with MD ~~(BR had moved to North Building)~~ to provide better job scheduling and machine utilization. [REDACTED], AD at the time, felt that this merger was of primary importance to fully test combined units prior to the move to the new building in 1961. <sup>3/16 report after the move that a savings of</sup> ~~and~~ the BR machine operations were <sup>at that time of the</sup> absorbed by MD in the fall of 1961.

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It wasn't until

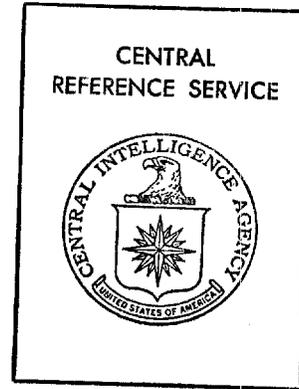
approximately 3 man years had been effected.

25X1A9a

- 1/ Memo, [REDACTED], 13 Nov 47, sub: Reference Center T/O. C. File: Tables of Organization 1947-51 Job: 58-98/6
- 2/ Memo, AD/CD to all Divisions, 16 Dec 49, sub: Coordination in Machine Methods. U. File: OCR History Dec 1946-52 Job: 59-875/1
- 3/ Memo, DAD to AD/CR, 18 July 58, sub: Merger of Industrial Register Machine Operation with Machine Division. C. File: Machine Division 1947-58 Job: 60-548/1

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Through a ~~Management Survey~~ recommendation based on a Management Survey of machine methods in the Agency, the Administrative Projects Branch was established in the Central Index in the fall of 1947 to perform accounting and administrative records work on a punched card basis for the Administrative Staff of the Agency. In August 1950 this activity with eleven T/O slots was transferred to the ~~Special Support Staff of Administration and Management~~ MD was relieved of providing this administrative support in August 1950 with the transfer of eleven T/O slots to the Special Support Staff of Administration and Management. <sup>1/</sup>

One of the earliest non-OCD jobs that MD assumed in 1948 and continued until 1967 was work for the National Intelligence Survey (NIS) Gazetteers. <sup>2/</sup> A punched card procedure was developed in order to produce gazetteers of place names for the NIS program. For purposes of efficient operation for an unclassified project, the key punching was performed in the Board of Geographic Names (BGN), South

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[REDACTED] The machines and personnel (2 key punchers and one supervisor) were those of MD. In a report to the Clark Committee in 1954, the AD/CD stated that this activity consumed 5 percent of MD's manpower. <sup>3/</sup> In 1959 support to this program cost OCR \$35,635. <sup>4/</sup>

In April 1962 ~~MD~~ MD moved the two key punch operators from Interior to Headquarters because of the inability of BGN to release material for punching on an even flow. <sup>5/</sup> The scarcity of trained keypunch personnel at a time when MD's punching requirements for all customers were increasing forced MD in 1963 to contract the job to a commercial keypunch service. Eventually- approximately 1965- this also proved unsatisfactory and the job was brought back to MD. <sup>6/</sup>

<sup>6/</sup> 25X1A9a [REDACTED] CRS EDP&D, May 1973

<sup>5/</sup> Memo, C, MD to AD/CR, 27 Feb 63, sub: NIS Gazetteer Production. C. File: Machine Division 1962-63 65-413/4

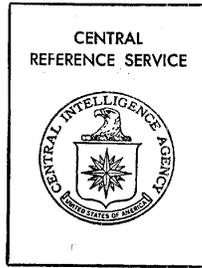
<sup>1/</sup> Memo, Management Officer to Acting Executive, 25 Aug 50, sub: Administrative Tabulating Machine Functions. C. File: Tables of Organization 1947-51. Job: 58-98/6

<sup>2/</sup> Memo, Management Officer to Acting Executive, 12 July 50, sub: Machine Methods and Agency Operations. C. File: Management Office 1949-51. Job: 58-98/3

<sup>3/</sup> Machine Division, Priorities and Limitations on Manpower. 20 July 53

<sup>4/</sup> File: Clark Committee-1954. Job: 66-518/1  
<sup>5/</sup> Memo, AD/CR to DD/I, 15 June 59, sub: Survey of OCR Functions, Tab B.  
<sup>6/</sup> # 16 Extra-Office Machine Support. S. File: DD/I 1959-61 Job: 64-341/3

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Memo, AD/CD to Acting AD/RR, 21 Feb 52, sub: Initiation of International Trade Register. S. Chrono 1952. Job: 58-98/6

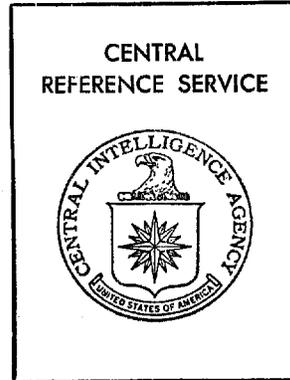
Machine Division, OCR. Summary of Personnel, Equipment, and Supply, Requirements and Costs Calendar Year 1959. C. File: Machine Division 1959 Job: 61-416/2

Indicative of <sup>other</sup> the work MD performed in addition to Intellofax is the list of tabulating card files maintained in 1957 as a service to Agency components: <sup>1/</sup> The starting date is indicated when known. <sup>MD prepared a detail summary of personnel equipment, and a cost sheet in 1957</sup>

1. The Library Book Order file served as an accounting record of all domestic and foreign publications procured by the Acquisitions Branch of the Library for all offices in the Agency. MD began this <sup>punched card</sup> file in 1949 for domestic book and periodical subscriptions.
2. The Card Catalog file was an index to all books in the CIA Library. Begun in 1949, this IBM file was maintained by MD until the Library switched its book cataloging from the Intelligence Subject Code to Library of Congress classification scheme in 1959.
3. Three files, the Film (motion picture films), Spot Photography (ground photography), and Personality (photographs of persons) were indexes to material held by or available to OCR's Graphics Register. See chapter \_\_\_\_\_ (Graphics Register) For details
4. The <sup>25X1A2g</sup> [redacted] <sup>25X1X4</sup> [redacted], maintained for DD/P, was used to prepare machine listings of information related to people traveling to and from <sup>Communist</sup> ~~Bloc~~ countries.
5. The <sup>25X1B4d</sup> [redacted] was used for preparing machine listings for ORR for the analysis of freight traffic.
6. The River Register File was used for preparing machine listings for ORR of Russian river vessels.
7. The Foreign Trade Register, started in February 1952 <sup>3/</sup> for ORR, and ~~containing the names of business establishments outside the transacting trade Soviet Bloc with business transactions with Communist countries,~~ was used for preparing machine listings of names of business establishments which were involved in outside the ~~Soviet Bloc~~ <sup>with</sup> trade transactions with ~~Bloc~~ Communist countries.

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25X1B4d



9. The ORR Time Study File served as an analysis of time expended on research projects in ORR.

10. The Policy and Program Co-ordination file, maintained for the War Plans Division of DD/P, contained names and identifying information concerning persons recommended for evacuation from their native countries in time of war.

25X1A2g

11. The [redacted] file contained the names, geographical latitude and longitude of the primary bombing targets in China and the Soviet Bloc countries. (Source documents did not indicate which office in CIA was the primary user.)

*Referred to*

In 1966 the following statistical data was compiled to indicate the amount of money spent on extra-office machine support. This included the NIS Gazetteer Program [redacted] prepared by ORR at the request of other [redacted]

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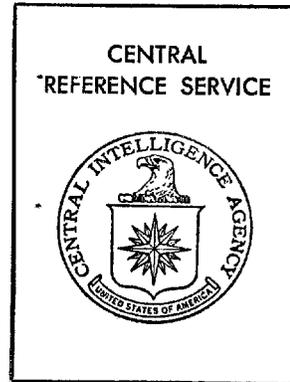


*1) Memo AD/CR to DDT, Tab B, #16 Extra-office machine support. 15 Jan 59 survey of ORR Functions. S. (Change DDT 1959-61) JPL 64-341/3.*

*2) Description and Statistical Summary of ORR Reference Support Program, Sept. 66. S. CRS Historical Files*

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*(Handwritten initials)*

*to non-OCR elements*

As new activities mushroomed, MD's keypunch support work increased.

In 1962 the creation of a Requirements Registry in OCR and the establishment of the Committee on Documentation (CODIB)'s Staff for the Community Information Processing (SCIPS) added to the division's work load. Support to SCIPS in calendar 1963 was reported as 3.5 man years.

25X1A2g

entire [redacted] effort from 1964 to 1967 MD provided heavy support to the

25X1A2g

Office of Computer Services (OCS). During the last quarter of FY 1966, for [redacted]

MD punched and processed 25,000 cards or the equivalent of one man year for that period. <sup>2/</sup> *also other punching & tabulating support* FDD Publications Survey Questionnaire and FDD Contractor's List, OBI Map Library Area Card File: CODIB's Content Control Code, a subject and area code. Office of Operation's Foreign Equipment Directory, among a few. MD duplicated index decks, such as the Intelligence Subject Code, the USSR Travel Folder, and the Ground Photography, to meet a DIA request for input to iys computer system.

*under*

Program and other activities approved by OCR at the request of other

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[redacted]

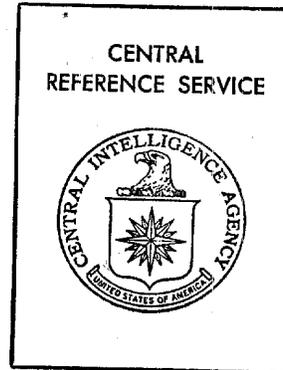
FY 1964-

- 1/Memo, A ting AD/CR to DD/I, 12 Dec 63, sub: Functions and Workloads Absorbed Calendar Year 1963. S. File: DD/I 1963 Job: 66-496/2
- 2/Memo, C/MD to D/CR, 11 July 66, sub: Machine Division Monthly Reports June 66. C. File: Machine Division Monthly Reports 1966. Job: 71-18/1
- 3/Monthly Reports 1965 and 1966. File: Machine Division Monthly Reports 1965, 1966. Job: 71-18/1

- 1 Absorbed Calendar Year 1963. S. File: DD/I 1963 Job: 66-496/2
- 2 Memo, AD/CR to DD/I, 15 Jan 59, sub: Survey of OCR Functions, Tab B. # 16. Extra-Office Machine Support. S. File: DD/I 1959-61 Job: 64-841/3
- 3 Description and Statistical Summary of OCR Reference Support Program. Sept 66. S. CRS Historical Files
- 4 Memo, C/MD to D/CR, 14 Mar 66, sub: Machine Division Monthly Report Feb 66. C. File: Machine Division 1966 Monthly Reports 1966. Job: 71-18/1
- 5 Memo, C/MD to D/CR, 14 July 66, sub: *Month Dev Monthly Report* June 66. C. File: MD Monthly Report 1966. Job: 71-18/1

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MD

Charged with the responsibility for the development and efficient operation of special machines and equipment for OCD, and for providing advisory services for CIA offices and other intelligence agencies on the availability and use of new machine methods and equipment for intelligence operations, the MD experts maintained close contact from the outset with leading designers and manufacturers of information storage and retrieval and micro-photographic equipment. In fact, the ingenuity and expertise of OCD employees and the unique information handling needs of OCD in some instances led to the development of new machinery or new applications of existing equipment especially adapted to its operating needs. The utilization of aperture cards for storage, the Photostat Expeditor for rapid reproduction, introduction of the Flexowriter, modification of Recordak cameras, and testing closed circuit television equipment were but some of the projects reviewed and adapted by MD. The expertise of the personnel of this Division was constantly refreshed by special training which kept them abreast of the rapidly changing technology and prepared them for conversion to the world of computers in the late 1950's, the late 1960's. By mid-1959 14 persons in MD had completed various Agency sponsored and non-Agency sponsored electronic computer school courses.

*MD performed research in development of a combination of closed-circuit television and high-speed facsimile equipment enabling a requester to view & copy documents in a near real time office environment. Proposed television & facsimile systems for primary applications. U.S. Rel. M.D. 159758 Job: 68-948/1*

Not all experimentation was successful. In 1952 MD personnel

worked closely with the Office of Scientific Intelligence (OSI), which had originally sponsored the [redacted] project with the [redacted]

A special machine developed by Hans Luhn of IBM was made available to MD, and [redacted] and his team from [redacted] spent many months with MD personnel and OCD indexing personnel in designing and testing

*Annual Report 1958-1964 File: Annual Reports. Job: 68-487/4*

\* For details see chapter (Intellofax)

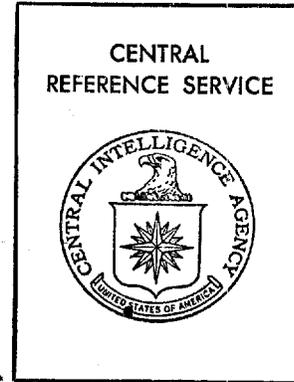
*MD developed a punch card print-out unit for vital materials. This is called a punch card machine. The equipment ->*

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replaced an IBM 402  
tabulator in OMR  
at a substantial  
savings in machine  
rental.

(Source: Annual Report of  
the Office of Central Reference  
by 1964 CIA/OR#AR-7  
S. Feb: Annual Report  
1964-65 Job: 68-487/4



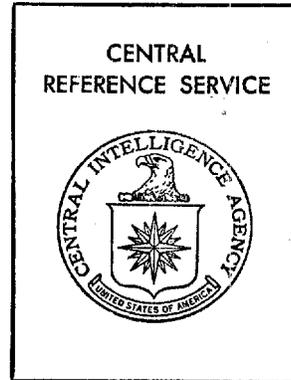
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developmental work and testing (1960-62) led to its rejection by MD because the end product was of unacceptably poor quality. MD tested a prototype of an automatic film mounter in <sup>1959/60</sup> ~~1960~~ but after a prolonged period of debugging rejected it in <sup>early</sup> ~~1960~~.

Successful in-house developments included an automatic flash number display unit for the microfilm camera; a cartridge loading device and an automatic shutter for camera indexing for the Iodestar (Recordak) viewers; modified film feeders on aperture card feeders, and a TV camera mount for the Office of Security.

MD throughout ~~the~~ <sup>the</sup> years had a maintenance section or equipment services ~~activity~~ <sup>shop</sup>. It was not only responsible for the operation and maintenance of all the equipment used in the Intellofax System, <sup>this stuff</sup> but was also charged with the maintenance of the various types of office copying equipment installed throughout the Agency. A small machine and electronic shop was maintained for research and experimentation with new products to determine the feasibility of their use. The shop also designed and fabricated certain specialized equipment for other components of the Agency.

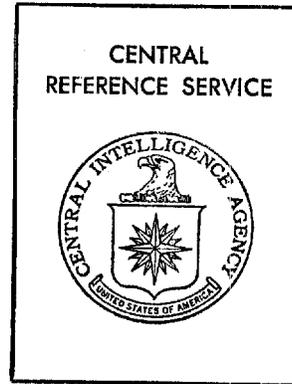
1/ memo AD/CR to Project Review Com., 2 Nov 60  
 sub "Additional Funds for Film Mounter Project"  
 S - in Chron 60 Job: 64-381/1

2/ memo DAD/CR to AD/CR, 19 Jan 62 sub: The Chron 62  
 Prod. of Steel Reel Camera and Mounter. U. File: Chron 62  
 Job: 65-413/2

1/ Annual Report of the Office of Central Reference FY 1963.  
 CIA/CR AR-6, 1 Nov 63 S. File: Annual Reports Job: 68-187/4

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MD - 2

The Machine Division was affected by the Minicard test which lasted during all of 1959 and part of 1960. 15 individuals were detailed effective 15 Jan 59 to staff the OCR Minicard test.

*the Automation Development Group (ADG)*

In ~~the summer of~~ July 1958, OCR established a small staff with documentation and technical backgrounds, to follow automation developments in industry and government and to plan applications of new equipment in OCR. This transferred developmental responsibility

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from MD to ADG. [REDACTED] Chief, Planning Staff, MD was named to head the staff. The ~~ADG~~ <sup>not under</sup> Group followed developments in

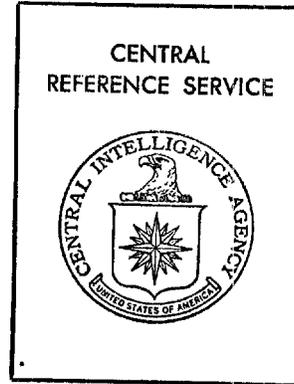
~~information handling equipment and performed the planning and pilot testing of machine applications to OCR operations,~~

*but also*  
~~developmental responsibility from MD to ADG~~ *thus transferring*  
ADG was responsible for the Minicard experiment (1959-60) which ~~"substituted"~~ *"substituted"* MD ~~detailed~~ *detailed* 15 individuals for more than a year.

- 2 Memo, Special Assistant to AD/CR to AD/CR, 20 Jan 59, sub: Detail of Personnel to staff Minicard Test C. File: Chrono 1959 Job: 63/9
- 1 Memo, AD/CR to Chief, Field Coordination Staff, 31 July 1958, sub: Contribution for the DDI Newsletter. S. File: Chrono 1958 Job: 63-9

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MD

in 1965

The establishment of a Systems Analysis Staff directly responsible to the MD's office freed MD of the responsibility for research testing and experimental design, and of Project [redacted] an effort to achieve an improved capability to store and retrieve information, through the combination of machine and human techniques for controlling massive volumes of information. This changed the overall responsibility of MD for large scale research

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FY 1965 saw the creation of two staffs which freed MD of responsibility for blue-sky planning: a Systems Analysis Staff directly responsible to the Director/OCR's office and the [redacted] Task Force. [redacted] was the joint Office of Computer Services-OCR

25X1A2g

effort to achieve an improved capability to store and retrieve information through the combination of machine and human techniques for controlling massive volumes of information in the computer world.)

With the establishment in 1961/62 of the Agency's Automatic Data Processing Staff (ADPS) and in FY 1965 of the Systems Analysis Staff directly responsible to the Director/OCR's office & the Task Force (this was)

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MD was freed of responsibility for long-range planning in the field of automatic data processing systems.

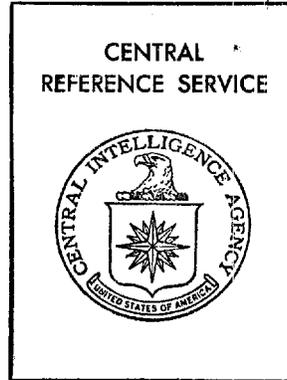
1) OCR Annual Report FY 62  
CIA/CR AR-5 21 Sept 62

July 1961

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MD 19

1963 (September)

On the whole the IG Survey of 1963 was not too critical of MD. There were a few operations which the survey pointed out for correction. The IG found the Card-punch Section of 25 individuals perpetually undermanned, and facing an enormous backlog. <sup>establishment</sup> The ~~impact~~ of the ~~the Requirements Registry in OCR~~ because of keypunch load from the new ~~OCR~~ Requirements Registry of OCR. The IG recommended that the DD/I request ~~from~~ the Director of Personnel to provide on a temporary basis from the clerical pool five additional keypunch operators for MD to obviate excessive overtime and reduce backlog. The IG ~~also recommended that~~ found that the Planning Staff was not consulted about new computer programs in advance and therefore could not Agency units levying programming requirements on ~~the/PT/n~~ MD were not consulting the skilled and experienced Planning Staff personnel in advance usually established their own guidelines before consulting the skilled and experienced Planning Staff and then tended to resist logical changes recommended by the staff of experts. The IG therefore recommended that the AD/CR instruct the C/MD to require all customers to initiate requests for programming services at the earliest practicable stage with the Planning Staff and that the Planning Staff review such requests and recommend any necessary modifications prior to their acceptance by MD as an approved project. The IG was concerned which had arisen about the dissatisfaction among the former Biographic Register machine personnel since the merger of BR's machine unit into MD. <sup>an</sup> In the IG's discussions this problem with with MD management and MD was taking construction action by rearranging machine assignments among the several units on a more equitable basis.

The IG raised the question of ~~exp~~ <sup>by providing</sup> more exposure to Agency and non-Agency training for MD personnel. Tabulator equipment operators were

interested in computer training and keypunchers were interested in

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